

(B3) supplying said coolant into the coolant path to cool the substrate when the substrate temperature is changed by the loading of the substrate on the placing table or a predetermined time after the change in the substrate temperature; and

(C3) unloading the substrate from the placing table after the substrate temperature is rendered lower than the target temperature to warm the substrate to the target temperature within an atmosphere having a temperature almost equal to the target temperature.

16. (New) A cooling method for cooling a substrate loaded on a placing table by supplying a coolant having a temperature lower than a target temperature into a coolant path arranged in said placing table, comprising the steps of:

(A4) setting the temperature of said placing table at a temperature almost equal to the target temperature before the substrate is loaded on the placing table;

(B4) supplying said coolant into the coolant path to cool the substrate when or a predetermined time after the substrate is loaded on the placing table; and

(C4) unloading the substrate from the placing table after the placing table is cooled to a temperature lower than the target temperature to warm the substrate to the target temperature within an atmosphere having a temperature almost equal to the target temperature.

17. (New) A cooling method for cooling a substrate to a target temperature by allowing said substrate to be received by delivery means in an upper portion of a placing table, moving downward said delivery means to load the received substrate onto said placing table, and supplying a coolant having a temperature lower than a target temperature into a coolant path arranged in the placing table, comprising the steps of:

(A5) setting the temperature of the placing table at a temperature almost equal to the target temperature before the delivery means is moved downward;